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DESCRIPTIONS OF NORTH AMERICAN HYMENOPTERA, No. 3.

BY E. T. CRESSON, PHILADELPHIA.

(Continued from Page 64.)

Family ICHNEUMONIDÆ.

Genus PERILITUS, Nees.

This Braconid genus belongs to Wesmæl's group Polymorphes, and the species described below to Haliday's subgenus *Meteorius*, which is distinguished from the other genera or subgenera with petiolated abdomen, by the anterior wing having *three contiguous* cubital cells.

1. PERILITUS NIVEITARSIS. *N. sp.*—♂ ♀.—Ferruginous, shining; cheeks, sides of thorax and apex of abdomen thinly clothed with a short, whitish, somewhat pruinose pubescence; face and mouth pale ferruginous; palpi whitish; occiput and space enclosed by ocelli, blackish; antennæ entirely dark fuscous; prothorax and sutures of mesothorax blackish; metathorax rounded, reticulated and with a transverse arcuate carina before the middle; tegulæ pale yellow; wings hyaline, iridescent, costal nerve and stigma pale yellow or ferruginous, nervures fuscous; second cubital cell subquadrate, broader at base; interno-discal cell of same length as the externo-discal; recurrent nervure on a line and confluent with the intercubital nervure; four anterior tibiæ except tips, their tarsi and base of posterior tibiæ yellowish, posterior tarsi white, apex of posterior tibiæ fuscous, terminal joint of all the tarsi black; abdomen smooth and polished, first segment rugulose, sides margined, the disc with a faint longitudinal carina, lateral tubercles tolerably well developed; ovipositor nearly as long as abdomen, ferruginous, sheaths black. Length .30 inch.

Hab.—Massachusetts. Two ♀, three ♂, specimens. This is our largest species, and is easily recognized by the white posterior tarsi, the color of the body being much darker than that of the next species.

2. PERILITUS PALLITARSIS. *N. sp.*—♂.—Yellow ferruginous or honey-yellow, shining, thinly clothed with a short whitish pubescence;

palpi whitish ; antennæ pale ferruginous, dusky at tips, incisures of joints blackish ; metathorax finely reticulated, with an angular carina before middle and several other irregular carinæ ; tegulæ pale yellow ; wings hyaline, iridescent, nervures and stigma fuscous, neuration as in preceding species ; legs, except posterior femora, paler than body, posterior tarsi whitish, apex of their tibiæ dusky, last joint of all the tarsi black ; abdomen smooth and polished, first segment long and slender, especially at base, finely rugose, sides margined, lateral tubercles prominent. Length .25 inch.

Hab.—New Jersey. Smaller and paler than *niveitarsis*, to which it is closely allied.

3. *PERILITUS COMMUNIS*. *N. sp.*—♂ ♀.—Pale yellowish-ferruginous or honey-yellow, shining, slightly pubescent ; palpi whitish ; antennæ slightly dusky at tips, sometimes entirely dusky above ; metathorax rather coarsely reticulated, with several more or less distinct longitudinal carinæ, sometimes more or less dusky ; tegulæ occasionally pale yellow ; wings hyaline, iridescent, nervures and stigma vary from pale yellow to fuscous ; second cubital cell subquadrate, broader posteriorly, recurrent nervure on a line and confluent with intercubital nervure ; interno-discoïdal cell shorter than externo-discoïdal ; legs generally paler than body, sometimes unicolorous, terminal joint of tarsi blackish, sometimes the apex of posterior tibiæ and their tarsi are more or less dusky ; abdomen smooth and polished, first segment finely and longitudinally aciculated, that of the ♂ generally more or less fuscous, rarely entirely black, apical segments sometimes discolored ; ovipositor of ♀ as long as first abdominal segment, sometimes longer. Length .18—.22 inch.

Hab.—Connecticut ; New Jersey. Twenty-five ♀, twenty-one ♂, specimens. Smaller and paler than *pallitarsis*, from which it is readily distinguished by the posterior tarsi not being white.

4. *PERILITUS INTERMEDIUS*. *N. sp.*—♂.—Yellow-ferruginous, varied with blackish, shining, sub-pubescent ; palpi whitish ; antennæ black, scape yellowish beneath ; spot enclosing ocelli, occiput, prothorax above, two spots before anterior coxæ, pectus, lateral lobes of mesothorax, two lines on middle lobe and metathorax above except apex, black ; metathorax broad, rugulose ; tegulæ pale yellow ; wings hyaline, iridescent, nervures and stigma fuscous ; second cubital cell transversely subquadrate, broader posteriorly, otherwise as in *communis* ; legs pale yellowish-ferruginous, coxæ, trochanters and knees paler ; posterior tibiæ darker

and all the tarsi dusky; abdomen smooth and polished; first segment more robust than usual, black, finely aciculated longitudinally, lateral tubercles prominent; second segment orange-ferruginous; remaining segments blackish. Length .20 inch.

Hab.—Massachusetts.

5. *PERILITUS PROXIMUS*. *N. sp.*—♂.—Yellowish-ferruginous, shining, very finely pubescent; palpi whitish; space enclosed by ocelli and occiput blackish; antennæ black above, brown beneath, scape ferruginous; space each side of scutellum, space before anterior coxæ, pectus and metathorax above except apical margin, black; metathorax broad, rugose; tegulæ pale yellow; wings hyaline, iridescent, nervures fuscous, stigma pale; second cubital cell obliquely quadrate, transverse, otherwise as in *communis*; legs yellowish-ferruginous, tips of tibiæ and tarsi entirely blackish; abdomen smooth and polished, slender, especially first segment, which is very faintly aciculated and margined laterally with blackish. Length .18 inch.

Hab.—Illinois. Resembles *intermedius*, but while the thorax is more robust, and the metathorax differently and more coarsely sculptured, the abdomen is more slender and the first segment almost smooth.

6. *PERILITUS VULGARIS*. *N. sp.*—♂ ♀.—Pale yellowish-ferruginous, shining; space enclosed by ocelli blackish; antennæ dusky above and at tips, long in ♂, shorter, more robust and paler in ♀; lateral lobes of mesothorax and pleura sometimes more or less dusky; metathorax rather coarsely reticulated, black; tegulæ pale yellow; wings hyaline, iridescent, nervures pale fuscous, stigma pale luteous; neuration similar to that of *proximus*; legs uniformly pale yellowish, tips of tarsi dusky; abdomen smooth and polished, more or less discolored at apex; first segment black or blackish, more or less pale at base, broad at apex, minutely aciculated longitudinally; ovipositor as long or longer than first abdominal segment. Length .15—.17 inch.

Hab.—Illinois; Texas. Thirteen ♂, five ♀, specimens.

7. *PERILITUS DIMIDIATUS*. *N. sp.*—♀.—Black, shining; face, mouth and orbits ferruginous; palpi pale; antennæ ferruginous, scape above and tip of flagellum dusky; mesothorax piceous, rufo-piceous, or black varied with rufo-ferruginous; scutellum more or less and prothorax laterally, ferruginous; metathorax rugose; tegulæ pale; wings hyaline, iridescent, nervures and stigma fuscous, the latter pale at base; second cubital cell obliquely subquadrate, broader posteriorly, the recurrent ner-

vure not on a line with the intercubital nervure, but received by the second cubital cell near its basal corner; interno-discoïdal cell slightly shorter than the externo-discoïdal; legs pale yellowish-ferruginous, tarsi paler, their terminal joint black, apex of posterior femora above, tips of their tarsi and near their base, dusky; abdomen smooth and polished, first segment slender, black, finely and longitudinally aciculated; second segment pale luteous; third and following segments more or less blackish; ovipositor generally as long or longer than first abdominal segment, sometimes nearly as long as abdomen. Length .16 inch.

♂.—Antennæ longer and more or less dusky or blackish above; occiput blackish; thorax generally entirely black, except more or less of prothorax and sometimes the scutellum; legs sometimes uniformly pale honey-yellow; the tarsi generally more or less dusky; third and following abdominal segments black. Length .14—.16 inch.

Hab.—New Jersey; Pennsylvania; Illinois. Five ♀, four ♂, specimens. A ♀ specimen from Arizona has the abdomen beyond first segment pale luteous, slightly discolored at apex. It appears to be only a variety.

8. PERILITUS HUMILIS. *N. sp.*—♀.—Black; mouth, palpi and antennæ ferruginous, the latter dusky above, short, with close set joints; face and cheeks piceous; metathorax rugose; tegulæ pale yellowish; wings hyaline, iridescent, nervures and stigma fuscous; second cubital cell quadrate, recurrent nervure on a line and confluent with the intercubital nervure; interno-discoïdal cell shorter at base than the externo-discoïdal; legs pale honey-yellow, posterior pair more or less dusky, base of posterior tibiæ pale; abdomen black, second segment pale honey-yellow; ovipositor as long as thorax and abdomen together. Length .14 inch.

Hab.—Illinois. Closely allied to *dimidiatus*, but distinct by the black head and shorter antennal joints.

ABBOTT'S NOTES ON GEORGIAN BUTTERFLIES.

BY SAMUEL H. SCUDDER, BOSTON, MASS.

Continued from Page 77.

VOLUME XVI.

*XVI., 274.—*Turnus*. Feeds on the ash figured (*trifoliata*), and on swamp ash (*Fraxinus platycarpa*? A.W.C.); chrysalis June 20, gave imago July 4.

- *XVII., 1.—*Glaucus*. Feeds on swamp-ash and hickory; chrysalis Oct. 13, gave imago April 2.
- *XIX., 76.—*Asterias*. Chrysalis June 22, gave imago July 4; chrysalis Aug. 18, gave imago Aug. 27.
- *XX., 77.—*Troilus*. Spins a leaf together, quits it and makes another as it grows larger; caterpillar is called Mellow Bug, from the musky scent; chrysalis June 22, gave imago July 6; chrysalis Oct. 31, gave imago March 10.
- *XXI., 78.—*Ajax*. Chrysalis May 22, gave imago June 16; chrysalis May 12, gave imago March 22.
- *XXIII., 3.—*Ursula*. Chrysalis May 28, gave imago June 4; chrysalis June 9, gave imago June 18.
- *XXIV., 4.—*Misippus*. Chrysalis July 3, gave imago Aug. 7.
- *XXVI., 108.—*Archippus*. Feeds on butterfly weed and milky parsleys; chrysalis April 25, gave imago May 11; chrysalis May 12, gave imago May 22.
- *XXVII., 5.—*Antiopa*. Chrysalis April 24, gave out imago May 4. "The large red wasps are great enemies to this species, seizing on a caterpillar and cutting it to pieces, to make into a lump, the better to carry it to their nest, to feed their young with."
- *VIII., 28.—*Cenia*. Feeds on *Gerardia purpurea*; chrysalis Sept. 29, gave imago Oct. 14.
- *XXIX., 65.—*Claudia*. Feeds on passion flower (*Passiflora incarnata*, A.W.C.); ground colour of chrysalis is silver, or more like polished mother-of-pearl, spotted with gold and black; chrysalis May 9, gave imago May 20.
- *XXXI., 109.—*Huntera*. Feeds on everlasting and sunflower; chrysalis April 7, gave imago April 17; chrysalis June 15, gave imago June 22.
- *XXXIII., 66.—*Nicippe*. Feeds on yellow indigo (*Cassia occidentalis*?) chrysalis Aug. 8, gave imago Aug. 16.
- XXXIV., 7.—*Ismeria* (Carlota Reek.) Feeds on cross wort (*Helianthus trachelifolius*?) and sunflower; frequents oak woods of Bruke Co., but is not common; tied up May 15; chrysalis May 17, from which imago May 26.
- *XXXV., 80.—*Tarquinius*. Feeds on Indian arrow-wood and alder; it is partly covered with a white loose down; frequents swamps, but is rare; most frequent in Big Ogechee Swamp.
- *XXXVI., 112.—*Nippon*. Feeds on short-leaved pine (*Pinus inops*? on the MSS. Probably *P. mitis*, as *P. inops* is not found in Georgia so

- far as I know, A.W.C.); chrysalis June 5, gave out imago March 24; frequents oak woods; rare.
- XXXVII., 176.—*humuli*. Feeds on parsley leaved haw (*Crataegus coccinea*, MSS.; *C. apiifolia*, A.W.C.), pine, snap beans (common garden bean, A.W.C.); chrysalis April 30, gave out imago May 4.
- *XXXIX., 111.—*strigosa*. Feeds on narrow leaved jagged black oak (*Q. catesbyi*), and other oaks; very rare; chrysalis April 18, gave imago May 5.
- *XL., 81.—*calanus*. Feeds on red oak and other oaks (*Q. falcata*), and hickory; butterfly frequents chinquessin blossoms (*Castanea pumila*? A.W.C.), and not uncommon in oak woods; chrysalis April 28, gave imago May 10.
- XLII., 12.—*Irus*. Feeds on swamp huckleberry (*Vaccinium corymbosum*? A.W.C.); frequents borders of Ogechee River Swamp only; the butterfly frequents the blossoms of the Red bud (*Cercis canadensis*, A.W.C.) in the old fields, and is far from common; chrysalis April 20, gave out imago May 6.
- *XLIV., 11.—*Lycidas*. Feeds on beggar's lice (*Desmodium*, A.W.C.) or indigo, and is first of the colour of fig. 1; when it sheds its skin for the last time it becomes of the colour of fig. 2 [i.e., the yellow markings become pink.]
- *XLVI., 9.—*Tityrus*. Feeds chiefly in the night; they all [i.e., the *Hesperians*] "fold and spin a leaf together for their retreat; when they are small, only a small part of the leaf, quitting them and making them larger as they grow bigger, and sometimes, when it is a vine, in a leaf of the bush the vine grows on, for their greater safety from birds."
- *XLVII., 173.—*Bathyllus*. Feeds on wild bean; chrysalis June 21, gave out imago July 2; chrysalis July 25, gave out imago August 5.
- *XLVIII., 174.—*Fuvenalis*. Feeds on wild indigo (a *Baptisia*, A.W.C.) and oaks, particularly the narrow leaved winter green oak (*Q. phellos*, A.W.C.); spun up and left off eating Oct. 3; chrysalis first week in February, and imago Feb. 24; another spun June 25, changed to chrysalis June 27, and gave out imago July 5; another spun August 22, changed to chrysalis August 24, and gave out imago Sept. 2.
- *XLIX., 175.—*Brizo*. Feeds on wild indigo and oaks; spun up in Oct., changed to chrysalis in March, from which imago April 21.
- *L., 136.—*Martialis*. Feeds on red shank or red root (*Ceanothus ameri-*

canus and *Lachnanthes tinctoria*, go by the latter name at the north, A.W.C.) ; spun up in the leaves June 25, gave out imago July 8.

*LII., 84.—*Catullus*. Feeds on *Origanum* (a *Labiata*, A.W.C.), and horsemint (*Monarda punctata*.)

*LIII., 85.—*Samoset*. Feeds on a species of wild oats (*Andropogon arenaceum*) ; spun itself up in the leaves May 31, and gave out imago June 14 ; the caterpillar is very rare ; the butterfly frequents the oak woods, but is not common.

LIV., 137.—*tessellata*. Feeds on wild tea (*Seda*) ; spun itself up in the leaves June 25, and gave out imago July 7.

LVI., 212.—*Argiolus* of Smith-Abbott. Feeds on the wild kind of bean figured (*Erythrina tuberosa*), holly, &c.

LVIII., 242.—*Comyntas*. Feeds on the kind of wild pea figured (*Galactia*) ; also on red root, &c. ; chrysalis June 16, gave out imago June 24.

I will add a list of the plants accompanying the butterflies figured by Smith-Abbott in their work on the Insects of Georgia. For these also I am indebted to the kindness of Dr. A. W. Chapman :—

I. *Asterias* ; Garden Fennel. II. *Troilus* ; *Sassafras officinale*. III. *Philenor* ; *Aristolochia serpentaria*. IV. *Ajax* ; *Asimina triloba*. V. *Eubule* ; *Cassia marilandica*. VI. *Archippus* ; *Asclepias tuberosa* (not *curassavica*). VII. *Gilippus* ; *Asclepias obtusifolia*. VIII. *Coenia* ; *Linaria canadensis*. IX. *Huntera* ; *Gnaphalium polycephalum*. X. *Ursula* ; *Vaccinium stamineum*. XI. *interrogationis* ; *Tilia pubescens*. XII. *Vanille* ; *Passiflora incarnata*. XIII. *areolatus* ; Grass. XIV. *Favonius* ; *Quercus nigra*. XV. "*Argiolus*," *Erythrina herbacea*. XVI. *Otho* ; *Sisyrinchium anceps*. XVII. *Vitellius* ; *Panicum crus-galli*. XVIII. *Proteus* ; *Clitoria mariana*. XIX. *Tityrus* ; *Robinia pseud-acacia*. XX. *Lycidas* ; a broad leaved form of *Desmodium paniculatum*. XXI. *Furcinalis* ; *Galactia pilosa*. XXII. *Bathyllus* ; *Rhynchosia tomentosa*. XXIII. *Accius* ; *Wistaria frutescens*. XXIV. *Catullus* ; *Monarda punctata*.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—We learn that the annual meeting will be held this year at San Francisco. In a little while, doubtless, further details will be given of the arrangements that the various railways may be willing to make for those desirous of attending this meeting.

MICRO-LEPIDOPTERA.

BY V. T. CHAMBERS, COVINGTON, KY.

Continued from page 69.

Gracillaria juglandiella, ante p. 28, and
Hyponomeuta euonymella, ante p. 42.

When the descriptions of these species were prepared, I had forgotten that species had previously been described in Europe as *G. juglandiella* and *H. euonymella*. I have not seen these European species nor even any description of them, and possibly my species may prove to be the same. At any rate the names are so nearly the same as to necessitate a change of those, my species, and I therefore name them respectively *G. juglandisnigrella* and *H. orbimaculella*.

PARASIA.

1. *Parasia griseacella*.

Head and palpi white; the head sparsely dotted with brown; second joint of the palpi brownish, the third tipped with brown and with a brown annulus in the middle; antennæ brown; thorax mixed white and brown; wings white, overlaid with brown, so as to give a greyish cast; in the costal and apical portions of the wing the brown scales are condensed into numerous irregular and indefinite spots and streaks. Alar ex. $\frac{1}{8}$ inch.

Collection of Mr. Wm. Saunders, London, Ont.

Possibly this may be a *Gelechia*, as I have not examined the neuration.

STROBISIA.

This genus was erected by Dr. Clemens (*Proc. Acad. Nat. Sci. Phila.*, 1860, p. 164) for certain species related to *Gelechia*, differing from it mainly in the neuration of the wings, and in that respect approaching *Depressaria*. The apex of the anterior wings is, however, much more obtusely rounded than in either of those genera, and the neuration is not identical in the two species (*S. iridipennella* and *S. emblemella*) described by Dr. Clemens. As objects for the low powers of the microscope, the species are among the handsomest known to me.

1. *S. Aphroditeella*. N. sp.

Tongue and palpi white; face white, strongly tinged with purplish; head, thorax and anterior wings very dark golden or bronzy brown, vary-

ing to brownish golden, tinged with purple and topaz red, with the changes of the light ; on the costa are three indigo or violet-blue streaks, the first and second oblique, the third straight ; the first is the longest, and placed about the basal third of the costa ; the third is before the ciliæ. Near the base, upon the disc, is a short, very oblique streak of the same hue, pointing towards a small spot of the same hue placed within the dorsal margin at about the basal fourth; on the disc, almost between the points of the first and second costal streaks, is a minute spot of the same hue, and before it, near the dorsal margin, is a very short longitudinal spot of the same hue, and almost in a line with the first costal streak ; two other small spots of the same hue situated behind the two last named, form, with them, a trapezoid ; four small spots of the same hue around the apex, each situated between two of the apical veins. All of these streaks and spots vary with the light, through purple, crimson and topaz red. Ciliæ metallic, with two wide, hinder, marginal lines of the general hue ; legs of the general hue, with the tibiæ tipped and the tarsi annulate with white. *Alar* ex. $\frac{1}{2}$ inch. Kentucky. Common.

This is one of the most exquisite little gems that I have found among the "Micros." It evidently bears a very close resemblance to *S. iridipennella* Clem., (which, however, is unknown to me) and if Dr. Clemens' description could be supposed to be imperfect, it might be the same insect. But I cannot recognize it in his description. He says that the first costal streak in *S. iridipennella* is placed about the middle of the wing, instead of about the basal third, as in this species. In *S. iridipennella* the third costal is oblique ; in this species it is straight. He mentions only one spot near the base, instead of two, and he says that *iridipennella* has "three spots beneath the second costal streak, one in the fold and two in the middle of the wing," instead of the four forming the trapezoid.

These differences will enable the reader to distinguish the species ; the shape and neuration of the wings is the same in both. In *S. emblemella*, which is unknown to me, Dr. Clemens says that the posterior margin of the wings is oblique, and the neuration also differs slightly from that of *S. iridipennella* and this species.

The larvæ of all the species are unknown. The imagines have a curious habit, when they alight upon a leaf, of strutting rapidly about over its surface with the wings a little spread, and, as Dr. Clemens says, of driving away other "little people" from their neighbourhood. When they finally settle down, however, they are not very easily alarmed.

2. S. Venustella.

Tongue, palpi and face silvery white, except a streak along the upper surface of the palpi and the tip of the terminal joint, which are dark bronzy brown. Antennæ, head, thorax and abdomen, on their upper surfaces, dark bronzy or golden brown; anterior wings dark golden or bronzy brown, with many scattered golden scales in the dorso-apical portion, a broad blue fascia at the base of the wing, and a costal streak of the same hue before the middle, pointing obliquely backwards and reaching nearly to the middle; a dorsal streak of the same hue begins opposite the apex of the first costal and points obliquely backwards, almost reaching a discal spot of the same hue which is situated just within the second costal. The second costal is placed just beyond the middle, is concave towards the base of the wing, is narrow, brilliant and reaches nearly to the middle of the wing; the second dorsal is opposite the second costal, is short and points obliquely towards, but does not attain, the discal spot. The third costal streak is placed at the beginning of the ciliæ, it is small, and opposite to it, near the posterior margin, are two small longitudinal spots and some scattered scales of the same hue. Apical ciliæ silvery; dorso-apical ciliæ tinged with yellowish; two hinder marginal lines, one at the base of the ciliæ, the other at the apex. *Alar ex.*, scarcely over $\frac{1}{3}$ inch. Kentucky. Rare.

There is the same play of colors as in the preceding species, which it rivals in beauty. The specimen was taken strutting about on the leaves of the Buckeye (*Aesculus glabra*), but the larva and food plant are unknown. This species appears to bear some resemblance to *S. emblemella* Clem.; but, having but the single specimen, I have not examined the neuration of the wings.

DEPRESSARIA.

The species of *Depressaria* resemble those of *Glechia* somewhat in structure, but may readily be distinguished from them by the *depressed* abdomen (whence the name), and the divided *brush* on the under side of the second joint of the labial palpi.

Of the eleven species described herein, all are properly placed in this genus, except, probably, *D. cryptolechiella* and *D. dubitella*, and these do not seem to differ from it more than some European species which are usually located here. The neuration of the wings is the same in all of them, except as stated below, and is that of the true species of this genus. (Dr. Clemens, in his generic diagnosis of this genus, says that the median

vein of the hind wings is *two branched*. This is an error. All of these species agree with the figure in Westwood's introduction, in having it *three branched*.) *D. cryptolechiella* and *D. dubitella* differ from *Depressaria* in the form of the palpi, which, in the former, are like those of *Gelechia*, except, perhaps, that they are a little slenderer and more elongate, while in *D. dubitella* the brush is very small, though divided. In *D. cryptolechiella* the hind wings are not excised beneath the tip. Both of these species also have the neurulation, though not the shape of the hind wings, as in *Strobisia*, rather than *Depressaria*, the difference being that in *Strobisia* the subcostal vein is *trifid from the discal vein which gives off a single vein*, while in *Depressaria* the subcostal is *simple and the discal vein gives off two branches*—as though a branch of the subcostal of *Strobisia* had been separated and placed a little lower down on the discal vein. Otherwise these two species also agree with *Depressaria*. These species all have the wings comparatively narrower than most of the European species; shaped rather like *D. Aplan*a (or even narrower) than like *D. umbellana*, as those species are figured by Stainton. They are wider, however, in *D. Cryptolechiella* than any of the others.

The prevalence of dark brown or dark ochreous colors seems to be characteristic of the genus; and comparing my species and Dr. Clemens' descriptions of *D. atrodorsella*, *cinereocostella* and *pulvipennella*, and Dr. Packard's description of *D. robiniella*, and Mr. Bethune's description of *D. Ontariella* with the figures in Stainton's *Vol. 9, Nat. Hist. Tin.*, and other figures by Stainton and Douglass in the *Trans. Lond. Ent. Soc.*, those colors *seem* to prevail to a greater degree in the American than in the European species. The known American species are, however, too few as yet to predicate this statement generally.

1. *D. Cryptolechiella*. *N. sp.*

Third joint of the palpi black, with a narrow longitudinal white line on each side. Second joint pale yellow with a narrow longitudinal black line beneath. Antennae pale yellow, checkered above with black and with a narrow longitudinal black line on each side of the basal portion. Head, thorax and base of the anterior wings dull reddish-orange; anterior wings to the naked eye, pale golden, with the lustre of 'watered' silk, produced by a multitude of transverse, narrow, wavy, dark brown lines, as seen under the lens; six small dark brown spots in a row around the apex, to the naked eye appearing like a narrow marginal line. Ciliae pale fuscous, with a silvery lustre and a somewhat darker hinder marginal line at

their base. Hind wings yellowish white with a silky lustre. *Alar ex.* $\frac{1}{8}$ inch.

Possibly this may belong to *Cryptolechia*, but I have no knowledge of that genus other than Mr. Stainton's brief mention of it in the volume before mentioned.

2. *D? dubitella*. *N. sp.*

Palpi very large, *brush small*, face and palpi yellowish white. Head, thorax, antennae and anterior wings dark brown, with three microscopic ochreous spots, one at the beginning of the costal ciliae, an opposite dorsal one and one on the disc, forming nearly an equilateral triangle. Posterior wings pale fuscous. *Alar ex.* $\frac{1}{2}$ inch. Kentucky. Larva unknown.

3. *D. albisparsella*. *N. sp.*

Dark brown; extreme tip of third joint of the palpi white. Fore wings faintly suffused with ochreous and sparsely and indistinctly sprinkled with white scales, which at the beginning of the costal ciliae become a little more distinct, forming a narrow, clouded whitish fascia pointing a little obliquely backwards; tips of the ciliae whitish. *Alar ex.* a little over $\frac{5}{8}$ inch. Kentucky. Larva unknown.

4. *D. bistrigella*. *N. sp.*

Palpi with the second joint ochreous, dusted with dark brown; third joint dark brown tipped with whitish. Face very pale ochreous, dusted with brown; antennae brown; thorax and anterior wings dark brown, a little bronzed and with a little ochreous intermixed, especially in two small patches, one of which is just before the middle and the other about the middle of the wing; a small whitish costal streak at the beginning of the costal ciliae and another at the beginning of the dorsal ciliae; ciliae pale ochreous dusted with brown at their base; posterior wings pale ochreous with a silvery lustre. *Alar ex.* $\frac{5}{8}$ inch.

Collection of Mr. Wm. Saunders, London, Ont.

ENTOMOLOGICAL REPORT FOR 1871.—We are glad to be able to state that this Report is now printed, and will be mailed to the members in a few days.

INSECTS OF THE NORTHERN PARTS OF BRITISH AMERICA.

COMPILED BY THE EDITOR.

From Kirby's Fauna Boreali-Americana: Insecta.

(Continued from Page 57.)

[173.] 229. *CALLIDIUM SIMILE Kirby*.—Length of body 7 lines. A single specimen taken with the preceding species.

This species in most respects is so like *C. M. Proteus*, that I had set it by as another variety; but upon further consideration I am induced to give it as distinct, since it differs not only in colour but in the form and sculpture of the prothorax and other parts.

The apex of the palpi is more dilated, so that it is strictly securiform; the front behind the antennae is elevated and gibbous, with few scattered punctures: the sides of the prothorax are more puffed out, and much more minutely and thickly punctured, and there is a pair of impressions in the disk: the antennae also at the base are rufous: in other respects it does not differ from *M. Proteus*.

[This species, together with the preceding and the subsequent one, belong to the genus *Phymatodes* Muls. It is probably another variety of the very variable *Proteus*, as it has not been identified by any author that we are aware of.]

230. *CALLIDIUM DIMIDIATUM Kirby*. Length of body 4 lines. Two specimens in Lat. 54°.

Body not glossy; impunctured; hairy underneath; and except the forebreast, which is black, of a dull rufous. Head channelled between the eyes, behind them convex; antennae rufous, shorter than the body: prothorax somewhat coarctate at the base; minutely granulated; obsoletely channelled, more conspicuously behind: elytra rufous anteriorly.

This species comes very near to *C. (Merium) Alni*, but it is larger and has no white bands.

[*CLYTUS PALLIATUS* Hald. is a later synonym of this species. It is taken in Canada and the Eastern States; also on north shore of Lake Superior by Agassiz's Expedition.]

[174.] Sub-genus *TETROPIUM Kirby*.—Eyes four, connected by an elevated line. Antennae robust, short: scape much incrassated, subcylindrical, remaining joints subclavated. Prothorax constricted anteriorly and posteriorly. Thighs much incrassated, sometimes clubbed.

The type of this subgenus is *Callidium triste* Fabr. for those with clavated thighs, and *C. aulicum*, for those in which they are incrassated nearly their whole length. These insects will be found to have four distinct eyes, separated by the substance of the head elevated into a ridge, which at first sight appears a continuation of the eye, but which evidently has no lenses implanted in it—they are also distinguished by their robust and short antennae.

231. *CALLIDIUM* (*TETROPIUM*) *CINNAMOPTERUM* Kirby. Plate v, fig. 8. Length of body $3\frac{1}{4}$ to 6 lines. Several specimens taken in Lat. 65° .

At first sight this species seems the exact counterpart of *Callidium triste*, which it resembles in almost every respect; but upon examination it will be found that the thighs of these two insects are of a very different shape, those of *C. T. triste* being much attenuated at the base, while those of *C. T. cinnamopterum* are not at all. In the latter also the sides of the fore-breast are red, and the elytra are considerably darker, very near the colour of cinnamon.

The American specimens vary much in size, but all agree in the shape of the thighs.

[Taken at Ottawa, Ont., by Mr. Billings; Lake Superior (Agassiz.) Not common.]

[175.] 232. *CLYTUS UNDAYTUS* Kirby.—Plate vii, fig. 5. Length of body 8 lines. Two specimens taken in Lat. 54° , 65° .

Body black, underneath hoary from decumbent hairs, above velvety. Head anteriorly hairy with whitish hairs, behind the antennae very thickly punctured; palpi, labrum, tip of the nose and cheeks, eyes, antennae, and subface rufous; prothorax rough with very minute and numerous granules, the base and apex have an interrupted band of yellow hairs, and a hoary spot on each side produced by hairs; scutellum dark brown: elytra with an oblique linelet adjoining the scutellum, another in the disk near the base, two wavy bands, the extremities of the anterior one pointing towards the base, and of the posterior one towards the apex; the apex and suture, all pale yellow, produced by decumbent hairs: underneath on each side of the breast are three spots of the same colour, as likewise is the tip of the ventral segments of the abdomen; the legs are rufous, sprinkled with hoary hairs.

[A variety of *C. undulatus* Say.—Ent. Works, i, 119, plate 53. Taken during Long's second expedition by Say; Lake Superior (Agassiz); and throughout Canada West.]

233. *CLYTUS LUNULATUS Kirby*.—Length of body $7\frac{1}{4}$ lines. One specimen taken in Lat. 54° . Taken also in Canada by Dr. Bigsby, and in Nova Scotia by Capt. Hall.

[176.] This species is extremely similar to the preceding, but its bands and spots are quite white without any tint of yellow: the prothorax has no posterior interrupted band, the anterior spot of the elytra is crescent or kidney-shaped, the thighs are dusky; and the eyes are black; but the most striking distinction is exhibited by the head, which is perfectly smooth and without punctures, but when the occiput is disengaged from the prothorax, as it is when the head is inclined forwards, the front will be found to be separated from it by a bilobed line, behind which the head is thickly and confluent punctured.

[Probably a variety of the preceding species.]

234. *CLYTUS FUSCUS Kirby*.—Length of body $5\frac{1}{3}$ lines. A single specimen taken in Lat. 54° .

This species resembles the last in having the occiput similarly punctured, and the markings of the elytra are similar, except that instead of the white streak at the base there is only a dot: but it is of a brown colour, with the head and prothorax nearly black: the former is distinctly granulated; the palpi, labrum, eyes, and antennae are rufous, as in *C. undatus*, and like that the prothorax has both an anterior and posterior interrupted band of white hairs; the elytra and underside of the body are reddish-brown; the legs rufous, posterior ones very long.

[Taken at Ottawa and other places in Ontario.]

235. *CLYTUS LONGIPES Kirby*.—Length of body $5\frac{1}{4}$ lines. A single specimen taken in Lat 54° .

[177.] Body reddish brown, underneath hairy, with white decumbent hairs. Head black, minutely and thickly punctured, with a longitudinal slight channel, transversely elevated between the antennae; vertex elevated; palpi, labrum, antennae and extremity of the nose, rufous: prothorax black, rather oblong, elevated longitudinally in the disk with an anterior bowed transverse ridge, followed by several minute acute tubercles, next in the middle is another shorter ridge, which is also succeeded by similar tubercles: the sides of the prothorax are granulated; between the granulated portion and elevated disk, it is minutely reticulated, with a pore in the centre of each reticulation: elytra brown, subacute, with three bands formed of decumbent white hairs; the first forming a crescent at

the scutellum, which runs along the base and down the suture ; the second in the middle first running transversely, then turning upwards towards the base and again turning down so as to form a hook next the suture ; the third near the apex, running transversely from the external margin to the suture and then turning upwards so as to form another crescent ; there is also a dot between the two first bands near the lateral margin ; there is a large hairy white spot on the sides of the breast, and the anterior ventral segments have a white hairy band at the apex : the legs are rufous, the hinder pair remarkably long.

[Included in List of Canadian Coleoptera.]

236. *CLYTUS MURICATULUS Kirby*.—Length of body 5 lines. Many specimens taken in Lat 54°.

This comes extremely near to the preceding species, but is smaller, the discoidal ridges of the prothorax are nearly obsolete, that part has four white hairy spots, the bands of the elytra are differently shaped, and the posterior legs are considerably shorter : the breast and base of the abdomen underneath are hoary with white hairs, but not always spotted and branded.

[Has not been identified as a distinct species.]

[178.] 237. *HARGIUM [RHAGIUM] LINEATUM Oliv.*—Length of body $5\frac{1}{4}$ lines. Taken more than once in Lat. 54°, and also by Mr. Drake in the province of Massachusetts.

Body black, rather glossy, hoary from longish cinereous hairs. Head constricted behind into a neck, punctured with large scattered punctures ; antennae shorter than the prothorax, robust, last joint ovate, pedicel testaceous : prothorax constricted anteriorly and posteriorly, armed on each side by a stout rather sharp spine, punctured like the head, and hairy, but there are three longitudinal stripes without hairs, and the intermediate one without punctures, the lateral ones pass over the spines : elytra mottled with whitish or cinereous hairs, with three longitudinal ridges, the two external ones confluent near the apex, and a little higher up including between them a short abbreviated ridge ; the interstices are punctured like the head and prothorax ; at the base and lateral margin the elytra are reddish, and on the ridge next the suture there are two yellowish spots : coxae, trochanters, and base of the thighs reddish : abdomen carinated underneath.

[Taken generally from Philadelphia northwards, under the bark of pine trees.]

MISCELLANEOUS NOTES.

GEOGRAPHICAL DISTRIBUTION OF APHIDES.—The Aphis family is, as yet, very little known in low latitudes, and there are only two instances of its occurrence to the south of the equator. The first is a Madagascar genus, published by Coquerel: this genus has the fore wings more highly organized than those of any other known form of the tribe. The second dwells near New Caledonia, and is described by Montrouzier, and has much resemblance to some of the European Aphides. In Dr. Leith's collection of Bombay insects, I have observed an Aphis which, if its specific characters are not obliterated by its shrivelled condition, is identical with a common English species. The next record of the family is in North Italy, where Passerini has published a monograph of the species therein. Africa, Asia and Australia are thus almost undiscovered countries as regards Aphides, and afford a large space and require much time for research. The Aphides of America are unknown from the Southern end to the Northern States, where several new species have been described; a few there, are also species of Europe, and may have been introduced thence into America. Kaltenbach has published a work on the Aphides of Germany; and Koch another, on those of the same country; and, notwithstanding the three monographs here mentioned, and various descriptions of species in France and in Sweden, there is much yet to be discovered in Europe, especially with regard to the migratory species, and to the more or less conspicuous and numerous alternate generations, and to the influence of temperature and vegetation in changing the structure. The history of Aphides is connected with that of Coccinellae, Hemerobii, and Syrphi, which destroy them from without; and with that of Aphidiidae, Allotridae, and a few Chalcidiae, which destroy them from within; and with that of ants, which keep them as a flock, and feed on their honey. The little yellow ant lives with Aphides under ground; the black ant is a guide to the discovery of the long-beaked Aphis in the crevices of the bark of oak trees; and the large black and red ant resorts to the Aphides in woods. Some Aphides are especially subject to the attacks of Aphidii, from which other species, though equally numerous and noxious, are nearly free, weather and want of food being the agents in causing the latter to pass away. The comfrey Aphis is the frequent prey of a little red Dipterous larva, which seldom attacks other species. The fact that Aphides are stored by fossorial Hymenoptera as provision for their young is well known; and I observed an instance of it in Fin-

mark. The Aphides of that region must have a long continuance of the egg state; in England this state varies from one month to eight months, according to the species, and according to the weather. The length and season of the egg state in the Aphides of hot countries has not yet been observed, and is an interesting subject for enquiry.—*Francis Walker, in Newman's Entomologist.*

MONOHAMMUS MARMORATOR, *Kirby*.—I was so fortunate as to receive a specimen of this rare insect from a friend last summer. It was taken in Richmond Square, Montreal, on the 27th of July, 1871. Length of body one inch. The markings agree perfectly with Kirby's description, but as the antennae of his specimen were broken off, I will describe those of mine. Antennae a little longer than the body, first joint chocolate brown at the base, remainder grey, through which the brown appears in spots and streaks; second joint the same; third joint grey at the base, deepening into warm brown at the end; fourth, fifth, sixth, seventh and eighth redder brown, grey only showing a little at the base; remaining joints deep red. This is the only specimen I have got. There is another in the collection of the Natural History Society of Montreal, and Mr. Couper informs me that it was included in his Quebec List.

PIERIS RAPE.—This destructive butterfly was very abundant about Montreal in 1870, and ruined the cabbage gardens around the city. Last summer they were not nearly so plentiful, and this coming season I hope to see their ranks still thinner, as a good many of the chrysalids that I examined this spring contained parasites in the pupa state.—*F. B. CAULFIELD, Montreal, P.Q.*

COLEOPTERA TAKEN AT GRIMSBY.

- Cicindela lecontei*, one specimen, June 2nd. *Omophron tessellatum*.
Elaphrus clairvillei Kirby—*politus* Lec. Dr. Horn informs me that the specimen heretofore regarded by Leconte as *Clairvillei*, is undescribed.
Blethisa quadricollis, a specimen taken May 23rd.
Lachnocrepis parallelus, two, taken in the lake June 1st.
Stenolophus carus, about the roots of trees in the swamp, May 13th.
Tachys tripunctatus, under stones near water.
Haliphus fasciatus. *Hydroporus striatopunctatus*. *Agabus acuductus*.
Colymbetis (Scutopterus) coriaceus, Hoffm. Taken June 1st.
 “ *longulus*, a specimen taken also in the lake June 9th.
Hydaticus bimarginatus. *H. picus*. *H. liberus*.

- Ochthebius nitidus*, *Sperchopsis tessellatus*, *Clambus puberulus*.
Adranes lecontei, four specimens taken in a nest of yellow ants, May 11th.
Ceophyllus monilis, taken in nests of yellow ants from 25th April to middle of May. *Pselaphus erichsonii*. *Tychus longipalpus*.
Batrissus nigricans, *B. globosus*, taken with other sp. of *Pselaphidae* under leaves in the swamp. April.
Homalota lividipennis, *Alcochara nitida*, *A. lata*, *A. rubripennis*, *Tachyporus*, *brunneus*, *Bryoporus rufescens*, *Mycetoporus americanus*, *Acylophorus pronus*, *Euryporus puncticollis*, *Philonthus sparsus*, *P. micans*, *P. sobrinus*, *P. terminalis*, *P. paederoides*, *Diochus Schaumii*, *Lathrobium puncticolle*, *L. rufulum*, *Scopaeus exiguus*, *Stenus stygicus*, *S. flavicoruis*, *S. annularis*, *S. arculus*, *Lathrimacum sordidum*, *Pregnatha punctata*.
Paremalus seminulum. *Baeocera apicalis*.
Limulodes paradoxus. A specimen of this curious little *Trichopterygida* occurred in the before-mentioned nest of yellow ants with *Adranes* and *Ceophyllus*, making two blind species found in the same nest.
Prometopia sexmaculata, *Trogosita marginata*, *Sylvanus advena*, *Antherophagus convexulus*.
Cryptophagus cellaris. Taken in a nest of Humble bees.
Corticaria rugulosa *C. picta*, *Psophenus lecontei*, a specimen bred from a larva taken in the creek at Grimsby.
Canthon nigricornis, a dead specimen found on the lake shore June 29th.
Cremastochilus Harrisii, also taken on the lake shore.
Agrilus cephalicus, *A. egenus*, *Cardiophorus cardisce*, *Athous discaleratus*.

J. PETTIT.

BOOK NOTICE.—We have just received the first number of a new work on "Indigenous and Exotic Lepidoptera," (*Rhopaloceres, Heteroceres*), by Mr. Herman Strecker, of Reading, Pa., U.S. The work is well got up in quarto edition, with colored illustrations by Mr. Strecker himself. It is to be published monthly at 50 cents a number, and we recommend it to the careful attention of our entomologists. We shall refer again to this book in our next issue.

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